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AN EXPERIMENTAL STUDY TO DETERMINE THE EFFICACY OF SPECIFIC TRAINING IN LISTENING.

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THIS STUDY ATTEMPTED TO DETERMINE WHETHER OR NOT GIVING PUPILS SPECIFIC INSTRUCTION IN THE SKILLS OF PURPOSEFUL LISTENING WOULD IMPROVE THEIR LISTENING ABILITY. NINETY RANDOMLY-SELECTED SEVETH-GRADERS WITHOUT HEARING IMPEDIMENTS AND OF COMPARABLE INTELLIGENCE WERE DIVIDED EQUALLY INTO THREE GROUPS. THE ISOLATED-CONTROL GROUP RECEIVED INSTRUCTION IN LITERATURE, THE CONTROL GROUP "DID NOT RECEIVE ANY SPECIAL TREATMENT," AND THE EXPERIMENTAL GROUP RECEIVED INSTRUCTION IN PURPOSEFUL LISTENING. FIVE LESSONS EACH IN LISTENING FOR SIGNIFICANT DETAILS, IN GRASPING MAIN IDEAS, AND IN FOLLOWING DIRECTIONS WERE GIVEN TO THIS EXPERIMENTAL GROUP. FORMS 3A AND 3B OF THE STEP LISTENING TESTS WERE USED FOR PRE- AND POST-TESTING ONE WEEK BEFORE AND ONE WEEK AFTER THE 20-DAY EXPERIMENT. STATISTICALLY SIGNIFICANT DIFFERENCES BETWEEN PRE- AND POST-TEST SCORES FOR THE THREE GROUPS CLEARLY INDICATED THAT SUPERIOR GAINS WERE MADE BY THE EXPERIMENTAL GROUP. LIMITATIONS OF THE STUDY INCLUDED THE SMALL SIZE AND RESTRICTED GRADE LEVEL OF THE TEST POPULATION AND THE ABSENCE OF ANY INDICATION OF HOW LONG THE STUDENTS WOULD CONTINUE TO APPLY THE NEWLY-ACQUIRED LISTENING SKILLS. THIS PAPER WAS READ AT THE AERA CONVENTION (FEBRUARY 18, 1967). (RD)

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# AN EXPERIMENTAL STUDY TO DETERMINE THE EFFICACY OF SPECIFIC TRAINING IN LISTENING

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If listening is defined as the assimilative process of reviewing, organizing, interpreting and responding to aural symbols, then it is clear that the school learner is expected to spend time in the school situation engaging in this kind of activity. Wilt (1950) investigated, among other things, the time that elementary pupils spent in listening. She found that 57 per cent of their school day was consumed in some form of activity in which listening was required.

A search of the educational literature dealing with the area of listening produced a vast variety of material. Most of it was of an opinion nature such as extolling the importance of listening. Few experimental studies were located. A particular void was found in the area of controlled experimentation designed to measure the efficacy of specific instruction in listening.

As a result of the apparent need to determine whether direct instruction in listening would be effective, and that the knowledge derived from such an investigation would be a beginning of explorations in this area, the following problem was formulated:

Would teaching listening skills by means of specific instruction in seeking purposive listening with thirty randomly selected seventh grade pupils result in gains in listening ability?

The following hypothesis was formulated:

A statistically significant level among differences in pre- and post-test results obtained from the STEP: Listening Section (Forms 3A and 3B) would not be found among three groups of randomly selected seventh grade pupils: (1) an experimental group that received specific instruction in purposive listening, (2) an isolated-control group that received instruction in literature study, and (3) a control group that did not receive any special treatment.

There were 90 seventh grade pupils from Scotch Plains-Fanwood, New Jersey selected randomly from a population of 273.[1] The selected subjects were randomly assigned to three groups: one-third (or 30 subjects) to the experimental group that received treatment in learning to listen; one-third to an isolated-control group that received instruction in literature study; and one-third to the control group that did not receive any special treatment.

Each of the subjects had taken the Weschsler Intelligence Scale for Children which was administered by trained psychologists approximately four months prior to the initiation of the study. The range in I.Q. scores among the three groups was 69 to 138. The mean I.Q. for the experimental group was 109, isolated control group, 107, and control group, 110. An analysis of variance was performed among the three groups and an F-ratio of .35, not approaching statistical significance, was obtained. It was concluded that the three groups were approximately comparable in measured intelligence.

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[1]Prior to random selection, students whose school medical records designated them as having hearing impediments were excluded from the population.

The Sequential Tests of Educational Progress, Listening Tests (Forms 3A and 3B), were selected as appropriate for measuring subjects' ability to listen before and at the termination of the experiment. One week prior to the initiation of the experiment, the three groups were tested by the experimenter. Post-testing occured one week following the termination of the experiment. In-as-far as was possible, testing conditions, time of day, and manner of administration were identical in both testing occasions.

A four week (20days) instructional period was initiated by the experimenter for the experimental group and the isolated-control group. Both groups followed a rotating schedule in order to insure an equalization of time of day during which the special instruction was given.

The experimental group recieved instruction in (1) listening for significant details (five lessons), (2) main ideas (five lessons), and (3) following directions (five lessons).[1] The first two days of lessons were devoted to arousing interest by means of discussions that pertained to the qualities of a good listener, the difference between hearing and listening, and the importance of effective listening as a learned skill. The discussions resulted in the development by subjects of a series of generalizations pertaining to characteristics of a good listener and guide-lines for directing and evaluating their active participation in purposive listening. Subsequently, as each of the lessons was presented, purposes for listening and the cues inherent in each of the skill areas were developed by structuring the lessons according to the length of the presentation, the concreteness of the subject matter and the obvious cues provided in the material. Vocal stress was used to emphasize and, it was hoped, make more obvious the cues in the first few passages to which the subjects listened. Following each presentation, questions were asked in order to assess comprehension of the presentation as well as to promote understanding of the application of the skill. Each lesson was begun with a review of the principles or cues presented previously for the particular unit and each was concluded with a review of principles or cues that had been applied or learned that day.

The last three days of the experiment were used to summarize the principles and to stress the relationship among skills that had been covered in the experimental lessons. Discussing the relationship between listening for significant details and understanding of the main idea is an example of the last phase of the special instruction.

The isolated-control group received 20 instructional periods in the study of a thematic unit in literature, Scholastic Literature Unit: Small World. The content was designed to promote an understanding of peoples from various cultures. The basic emphasis was placed in having subjects read literary selections related to a central theme.

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[1]All lessons were tape-reco

As previously stated, the control group participated only in the pre- and post-testing situations.

## Analysis of Obtained Data

In order to make valid comparisons, the raw scores obtained from pre- and post-testing were changed to converted scores obtained from the SCAT-STEP Supplement 1962.

The one way design of Analysis of Variance was applied to the pre-test data to determine whether the three groups differed significantly at the outset of the experiment. Table 1 shows that the obtained F of 1.53 did not approach statistical significance. It was concluded that the three groups were similar in listening ability as measured by the STEP: Listening Test (Form 3A) before the experiment began.

TABLE 1

Analysis of Variance for Pre-Test Scores on the STEP: Listening Test, Form 3A for Experimental, Isolated-Control, and Control Groups

| Source of variance | Sum of squares | df | Mean Square | F |
|---|---|---|---|---|
| Among groups | 519.49 | 2 | 259.74 | 1.53* |
| Within groups | 14,758.13 | 87 | 169.63 | |
| Total | 15,277.62 | 89 | | |

*Not significant at the .05 level of confidence

Differences between pre- and post-test scores for the three groups were compared by use of analysis of variance. Table 2 shows that the differences between pre- and post-test scores for the three groups were statistically significant beyond the .01 level of confidence.

TABLE 2

Analysis of Variance on Differences Between Pre-Test and Post-Test Scores on the STEP: Listening Tests (Forms 3A and 3B) for Experimental, Isolated-Control, and Control Groups

| Source of variance | Sum of squares | df | Mean square | F |
|---|---|---|---|---|
| Among groups | 817.76 | 2 | 408.88 | 9.41** |
| Within groups | 3,780.20 | 87 | 43.45 | |
| Total | 4,597.96 | 89 | | |

**Statistically significant beyond the .01 level of confidence

Table 3 shows the means of the difference scores for the three groups and the results obtained from applying the t-test to the data. The t-ratio of 2.98 was statistically significant beyond the .01 level of confidence between the experimental and isolated-control groups. It may be noted that the mean of the experimental group was higher. Likewise, a statistically significant difference was obtained between the experimental and control groups, again the experimental group had the higher mean. A significant difference was not obtained between the Isolated-control and control groups.

TABLE 3

Results of t-ratios Between Means of Differences Between Pre-Test and Post-Test Scores on the STEP: Listening Tests (Forms 3A and 3B) for Experimental, Isolated-Control, and Control Groups

| Source | Number | Means of Differences | t-ratio |
|---|---|---|---|
| Experimental | 30 | 7.83 | 2.98** |
| Isolated-Control | 30 | 1.67 | |
| Experimental | 30 | 7.83 | 3.15** |
| Control | 30 | 1.23 | |
| Isolated-Control | 30 | 1.67 | .23 |
| Control | 30 | 1.23 | |

**Statistically significant beyond the .01 level of confidence

Since statistically significant differences were obtained, the hypothesis was rejected. The experimental group differed significantly from the isolated-control and control groups one week after the treatment was concluded.

The results of the study pointed clearly to the superiority of the experimental group insofar as could be inferred from test results. The training in purposive listening seemed to be effective at the seventh grade level in improving students' ability to listen more purposively. The caution should be made that it is not known whether the gains made were of a permanent nature, e. g., whether the subjects will continue to apply what they learned. Furthermore, the study should be replicated on a much larger scale before wide-spread claims are made. It does seem reasonable to believe that listening instruction is possible and to recommend that further empirical work be undertaken in this area.